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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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K&L Gates LLP P.O. Box 1135 CHICAGO, IL 60690			EXAMINER CHAWLA, JYOTI	
			ART UNIT 1781	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

chicago.patents@klgates.com

Office Action Summary	Application No. 10/598,444	Applicant(s) AMBROGI ET AL.	
	Examiner JYOTI CHAWLA	Art Unit 1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/15/2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/15/2011 has been entered. Claims 1, 7, 11-12 have been amended and new claims 13-17 have been added in the current application. Claims 1-17 are pending and examined in the current application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

Art Unit: 1781

commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Rejections made in the previous office action have been withdrawn based on applicant's amendment to independent claims.

A) Claims 1-6, 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over IDS reference to Kahn et al (US 4552773), hereinafter Kahn in view of the combination of Hansen (US 5127956) and Dea et al (GB 1508437), hereinafter Dea.

Regarding **claims 1 and 12**, Kahn discloses whipped ice cream (Column 1, line36-38), that maintains a stable volume and is soft and spoonable at a temperature of 0°F, or about -18 °C (Column 1, lines 37-48), i.e., temperature range overlaps the claimed range of an aerated frozen confection which is soft down to a storage temperature in home freezers of -18 °C or less.

Regarding the composition of the frozen confection Kahn discloses 40-70% water (Column 2, lines 14-17), which includes claimed range of 50 to 70% water for claims 1 and 12.

Kahn also teaches of about 3-10% fat (Column 2, line17-19), which falls in the claimed range of 5 to 20% fat for claims 1 and 12.

Regarding the amount of polyol, Kahn discloses polyols or polyhydric alcohols including glycerol in an amount of 0.5 to 6% (Column 7, lines 10-20) (as recited in **amended claim 1 and claims 3 -4 and new claim 17**). Kahn discloses of replacing 1-35% of the sugars (Column 6, lines 34 to 65), where the sugars are about 1/3 to 4/7 of the amount of water (based on the relative proportion given of components in Column 2, lines 15-20) and Kahn also provides examples of compositions comprising about 24 % sugars by weight (e.g., see Columns, 8 and 9). Thus as disclosed by Kahn, polyols comprise 1% or more of the confection as recited in claims 1, 4 and 12.

Regarding the limitation of fiber Kahn discloses of polysaccharide stabilizers, which include Carboxymethylcellulose, carrageenan and other polysaccharides, including applicant's recited gum arabic (Column 4, lines 30-65), which is also known as fibergum from acacia tree, i.e., Kahn discloses of fibers. Regarding the amount of fibers, Kahn discloses of 0.125 to 10% by weight of the final products, which overlaps applicants' recited range of 0.5 to 7% vegetable fiber for claims 1 and 12. Kahn is silent regarding oat or chicory oligosaccharide as the source of fiber (as claimed in claims 1 and 5). However, fibers or oligosaccharides from chicory root were known and available at the time of the invention, as taught by Hansen (see, e.g., Hansen Column 1, lines 5-15 and 48 to 65, Column 3, lines 50-55, 62-67, Column 4, line 5). Hansen also discloses uses of chicory based composition comprising oligosaccharides and states that "The product prepared according to the invention is suitable for the preparation of low-calorie human or animal foodstuffs or beverages by incorporating the product in the foodstuff or beverage." (Column 8, lines 33-36). Hansen also discloses that "Examples for products where the mixture is usable include chewing gum, chocolate, **ice cream**, liquorices, cakes, all types of biscuits, canned food, marmalade and jams, lemonade and various other foodstuffs." (Column 8, lines 37-40). Regarding the benefits of using chicory saccharine composition Hansen discloses "The mixture passes the alimentary tract predominantly without being digested thus providing the organism with a very low amount of calories. The mixture increases the rate with which the food passes the alimentary tract, thus reducing the overall intake of calories." (Column 8, lines 50-54). Thus, frozen confections comprising non-digestible polysaccharides and oligosaccharides, in the recited amount of the applicant, were known at the time of the invention (Kahn). Chicory as a source of oligosaccharide was known (Hansen). Chicory oligosaccharide was known for its reduced calories and other benefits were known at the time of the invention (Hansen). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kahn in view of Hansen and include chicory based oligosaccharide as a stabilizer in the aerated frozen composition. One of ordinary skill would have been motivated to modify Kahn at least for the purpose

Art Unit: 1781

of including a source of sweetness that is natural and is predominantly non-digestible, provides very low calories itself and increases rate with which the food passes the alimentary tract, thus reducing the overall intake of calories, as taught by Hansen (Column 8, lines 50-54).

As claimed, Kahn also discloses of composition comprising sugars (Column 5, line 47 to Column 6, line 33), milk proteins (Column 3, lines 45-55), hydrocolloids (Column 4, lines 50-55) and emulsifiers (Column 3, lines 10-45).

Regarding the new limitation of "aerated frozen confection being resistant to shrinkage and soft down to a storage temperature of -18°C or less", Kahn discloses of a confection that maintains a stable volume (Column 1, lines 37-48), i.e., the volume of the frozen confection does not change. Kahn also states the freezer temperature of 0°F , or about -18°C (Column 1, lines 37-48). Kahn teaches soft and spoonable aerated confection comprising polyol in the claimed range and at a temperature of 0°F , or about -18°C (Column 1, lines 37-48). Further, evidence is provided by Dea where frozen confections containing freezing point depressants, like glycerol in applicant's claimed range of 1% or more were known in the art for being spoonable at temperatures of -20°C , i.e., less than -18°C as claimed (See Dea, Page 1, lines 35-40, 55-65 and page 2, lines 100-110).

Thus, based on Kahn's disclosure and as evidenced by Dea's disclosure stable spoonability of softness in an aerated frozen confection results from having stabilizers and freezing point depressants like glycerol. Since Kahn as applied above teaches substantially the claimed invention, it follows that frozen aerated confection of Kahn as applied above will also have the softness and spoonability at applicants' recited storage temperature. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention that frozen confection, as disclosed by Kahn will resist loss of volume or shrinkage, when stored at freezer temperatures of -18°C , as is instantly claimed.

Art Unit: 1781

Regarding the overrun, Kahn discloses 70-130% overrun, which includes applicants' recited range of an overrun of 20 to 200% for claims 1 and 12 and 90% to 160% for claim 6.

Regarding the overlapping of ranges between the invention and prior art composition (claims 1-6 and 12) it is noted that in the case where the claimed ranges "overlap or lie inside the ranges disclosed by the prior art" a prima facie case of obviousness exists (In re Wetheim, 541 F2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990)).

Regarding the amount of proteins as recited in **claim 2**, Kahn provides example of a typical product that may contain 5-8% nonfat milk solids and 3-6% of whey protein concentrate and (Column 3, line 66 to Column 4, line 5) which has a total protein solids, in a typical product in the amount of 3-10% or higher, which includes values in applicants' recited range. Regarding the source of the proteins being dairy, Kahn discloses of "dairy-based carriers, such as dairy whey, whey protein concentrate, nonfat milk solids, powdered milk and mixtures thereof" (Column 3, lines 50-55) in the final product in a concentration of about 5-25% (Column 3, lines 62-67).

Kahn is silent about the monopasteurized milk, however, applicants' have not clarified as to what is monopasteurized milk, and also have not disclosed any criticality of utilizing monopasteurized milk for the purpose of making the aerated confection. Thus, milk protein obtained from monopasteurized milk is also milk protein, i.e., functional equivalent of milk protein as taught by Kahn. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute one art recognized functional equivalent (i.e., milk protein) for another (i.e., milk protein from monopasteurized milk) in the frozen aerated confection as disclosed by Kahn, depending on milk protein from which source was more easily available and affordable at the time the invention was made. One would have been further motivated to include less processed milk protein for the added benefit of reducing the incorporation of highly processed foods in the frozen confection taught by Kahn. Further the applicants are referred to MPEP § 2144.07, *In re Leshin*, 125 USPQ 416 (CCPA 1960), where the

Art Unit: 1781

Courts have held that the selection of a known material..., which is based upon its suitability for the intended use, is within the ambit of one of ordinary skill in the art.

B) Claims 7-11 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kahn (US 4552773), in view of the combination of Hansen (US 5127956), hereinafter Hansen, Dea et al (GB 1508437), hereinafter Dea and IDS reference to Vaghela et al (WO 01/06865), hereinafter Vaghela.

Kahn discloses of components as discussed above regarding claims 1 and 12. Regarding the new limitation of “aerated frozen confection being resistant to shrinkage and soft down to a storage temperature of -18°C or less”, Kahn discloses of a confection that maintains a stable volume (Column 1, lines 37-48), i.e., the volume of the frozen confection does not change. Kahn also states the freezer temperature of 0°F , or about -18°C (Column 1, lines 37-48). Kahn teaches soft and spoonable aerated confection comprising polyol in the claimed range and at a temperature of 0°F , or about -18°C (Column 1, lines 37-48). Further, evidence is provided by Dea where frozen confections containing freezing point depressants, like glycerol in applicant’s claimed range of 1% or more were known in the art for being spoonable at temperatures of -20°C , i.e., less than -18°C as claimed (See Dea, Page 1, lines 35-40, 55-65 and page 2, lines 100-110).

Thus, based on Kahn’s disclosure and as evidenced by Dea’s disclosure stable spoonability of softness in an aerated frozen confection results from having stabilizers and freezing point depressants like glycerol. Since Kahn as applied above teaches substantially the claimed invention, it follows that frozen aerated confection of Kahn as applied above will also have the softness and spoonability at applicants’ recited storage temperature. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention that frozen confection, as disclosed by Kahn will resist loss of volume or shrinkage, when stored at freezer temperatures of -18°C , as is instantly claimed.

Art Unit: 1781

Regarding the method for producing an aerated frozen confection comprising the steps of: premixing sugars with fiber (Column 10, lines 1-25), and fat was added to make the premix, which was combined with sugars,, milk components, water flavor and butter (Column 10, table in lines 25-35) heat and mix at high sheer at pasteurizing temperatures 160-170 °F until dissolved, after that fat is added (e.g., see column 10, lines 38-60).

Kahn discloses of high shear mixer, i.e., adding the mixture to an agitated mixing tank, as claimed. Kahn also discloses of heating pasteurizing temperatures 160-170 °F, until dissolved, (Column 10, lines 38-60 and also see Column 7, line 45 to Column 12), i.e., subjecting the mix to a heating step which will hydrate the hydrocolloids, and pasteurizing the heated mix (e.g., Column 7, lines 60-67).

Kahn also discloses of homogenizing the pasteurized mix (Column 8, lines 5-20), and subsequently cooling (column 8, lines 15-18), holding , prior to shipping for 4-24 hours, i.e., ageing (Column 8, lines 19-20) and freezing the mix while aerating (Column 8, lines 20-33), and storing in a suitable container (column 9, lines 25-20), i.e., packaging.

The reference however, is silent regarding hardening the packaged product.

Vaghela discloses of a method of making aerated confections, where the aerated product is packaged into containers and hardened (Page 10, lines 16-38). Thus hardening packaged aerated confections at low temperatures was well known in the art of making frozen confections, as taught by Vaghela. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kahn in view of Vaghela and harden the aerated frozen confection. One of ordinary skill would have been motivated to add a method step of hardening to Kahn's process, at least for the purpose of solidifying the frozen confection to a stiffness level so that the confection can hold its shape.

Regarding claim 8 Kahn discloses of pasteurizing while blending and homogenizing pasteurizing temperatures of 160-170 °F, i.e., 71-76 °C (Column 7, lines 60-67) and is silent about the pasteurizing time, however pasteurizing is a known process of heating for a certain period of time to retard microbial spoilage of food and pasteurizing time and

Art Unit: 1781

temperature ranges are well known to one of ordinary skill in the art. In general, within the temperature ranges, the higher the temperature, the less time a food needs to be exposed to such temperature to be pasteurized. Vaghela discloses of pasteurizing temperature 50-100 °C for 10 seconds to 30 minutes, which includes applicants' recited time and temperature ranges of 24 to 30 seconds at about 90°C to 80 °C. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kahn in view of Vaghela and pasteurize the confection at Vaghela's recommended temperature for recommended time range at least for the purpose of ensuring microbial safety of the aerated food product.

Regarding claim 9, Kahn teaches of two stage homogenizing where the pressure is about 300 to 1000 psi (i.e., about 20-69 bar) and 2000 to 10000 psi (i.e., 137 to 689 bar) (Column 8, lines 5-20),, which includes applicants recited range for pressure of about 120 to 160 bar. Regarding the temperature of homogenizing Kahn teaches of homogenizing after heating the mixture to pasteurizing temperatures of 160-170 °F, i.e., 71-76 °C (Column 7, lines 60-67) or about 70 °C as claimed.

Regarding claim 10, Kahn discloses freezing step and aerating in a freezer. Kahn discloses the freezer exiting temperature of 68-75 °F, i.e., 20-24 °C (Column 8, line 24-25). The reference also discloses that the confection remains spoonable at freezer temperature of 0°F, or about -18 °C (Column 1, lines 37-48). Thus as disclosed Kahn discloses of freezer temperatures ranging from -18 °C to 24°C. Further freezing confections at temperatures in the claimed range was known in the art. For example Vaghela discloses of drawing temperatures of -4 to -10 °C, for an aerated product (e.g., Page 9, lines 35-40), which includes draw temperature of -5 to -10 °C, as claimed. Thus, freezing an aerated confection at drawing temperatures in the claimed range was known at the time of the invention (Vaghela). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kahn in view of Vaghela and freeze the confection at Vaghela's recommended temperature range to check the hardness of the frozen aerated confection. One of ordinary skill would have

Art Unit: 1781

been motivated to modify Kahn at least for the purpose of determining the organoleptic properties like smoothness and spoonability along with hardness and aeration quality of the frozen confection at temperatures near or at supermarket and home freezer temperatures.

Regarding claim 11, Kahn discloses of a method of producing confection products comprising the step of using a vegetable fiber selected from the group consisting of oat fibers, fibers extracted from chicory taproots and fibrous from Acacia tree in combination with a polyol to produce an ice confection which contains 5 to 20% by weight fat, as discussed above in rejection A regarding claims 1 and 12. (See Kahn Column 2, line 17-19 for **fat**; Column 6, lines 34 to 65, Column 7, lines 10-20 and Columns 8-9 examples for **polyol**, and Column 4, lines 30-65 polysaccharide stabilizers, including gum arabic or fibergum from acacia tree.

Regarding the **new claims 13-16**, which add the limitation that polyol is glycerol and is added in an amount of 1-5%, Kahn teaches of glycerol in an amount ranging from 0.5 to 6%, which overlaps applicant's claimed ranges recited in the new claims 13-16. Regarding the overlapping of ranges between the invention and prior art composition it is noted that in the case where the claimed ranges "overlap or lie inside the ranges disclosed by the prior art" a prima facie case of obviousness exists (In re Wetheim, 541 F2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990)).

Response to Arguments

Applicant's arguments filed 3/15/2011 have been fully considered but are moot in view of new grounds of rejection necessitated by amendment to independent claims 1, 7, 11-12 and addition of new claims 13-17. Applicant's arguments based on the amendment to independent claim and the statement that "aerated frozen confection being resistant to shrinkage and soft down to a storage temperature of -18 °C or less" have been considered. This limitation has been addressed in the rejection above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JYOTI CHAWLA whose telephone number is (571)272-8212. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jyoti Chawla/
Examiner, Art Unit 1781